Claims

What is claimed is:

1. A charge air system for delivering charged air from a compressor to a 'V' configuration internal combustion engine having first and second spaced banks of cylinders each defining a plurality of combustion chambers, the system comprising:

a compressor outlet;

a charge air cooler having an inlet and an outlet, said inlet being in communication with said compressor outlet;

a first branch conduit adapted for communication with said first bank of cylinders;

a second branch conduit adapted for communication with said second bank of cylinders; and

a flow control valve in communication with said outlet of said charge air cooler and in communication with said first and second branch conduits.

2. The charge air system of Claim 1, further including a connector having one inlet and two outlets, said connector inlet being in communication with said flow control valve and said two connector outlets being in communication with said first and second branch conduits respectively.

3. The charge air system of Claim 1, further including a charge air conduit connecting said compressor outlet and said charge air cooler inlet, said charge air conduit including a substantially straight portion adapted to be disposed between said first and second spaced banks of cylinders.

4. The charge air system of Claim 2, further including a charge air conduit connecting said compressor outlet and said charge air cooler inlet, said charge air conduit including a substantially straight portion adapted to be disposed between said first and second spaced banks of cylinders.

5. An internal combustion engine comprising:

first and second spaced banks of cylinders each defining a plurality of combustion chambers and a 'V' space therebetween;

a compressor having a compressor outlet;

a charge air cooler having an inlet and an outlet, said inlet being in communication with said compressor outlet;

a first branch conduit in communication with said first bank of cylinders;

a second branch conduit in communication with said second bank of cylinders; and

a flow control valve in communication with said outlet of said charge air cooler and in communication with said first and second branch conduits.

6. The internal combustion engine of Claim 5, further including a connector having one inlet and two outlets, said connector inlet being in communication with said flow control valve and said two connector outlets being in communication with said first and second branch conduits respectively.

7. The internal combustion engine of Claim 5, further including a charge air conduit connecting said compressor outlet and said charge air cooler inlet, said charge air conduit including a substantially straight portion disposed in the 'V' between said first and second spaced banks of cylinders.

8. The internal combustion engine of Claim 6, further including a charge air conduit connecting said compressor outlet and said charge air cooler inlet, said charge air conduit including a substantially straight portion disposed in the 'V' between said first and second spaced banks of cylinders.

9. The internal combustion engine of Claim 7, wherein said first and second branch conduits each include a substantially straight portion disposed on the opposite side of said first and second spaced banks of cylinders respectively to said substantially straight portion of said charge air conduit, and wherein the direction of air flow in said substantially straight portions of said first and second branch conduits is opposite to the direction of air flow in said substantially straight portion of said charge air conduit.

10. The internal combustion engine of Claim 8, wherein said first and second branch conduits each include a substantially straight portion disposed on the opposite side of said first and second spaced banks of cylinders respectively to said substantially straight portion of said charge air conduit, and wherein the direction of air flow in said substantially straight portions of said first and second branch conduits is opposite to the direction of air flow in said substantially straight portion of said charge air conduit.

11. The internal combustion engine of Claim 5, wherein the engine has first and second opposed ends, the compressor is provided at the first end of the engine and the charge air cooler is provided at the second end of the engine.

12. The internal combustion engine of Claim 6, wherein the engine has first and second opposed ends, the compressor is provided at the first end of the engine and the charge air cooler is provided at the second end of the engine

13. The internal combustion engine of Claim 7, wherein the engine has first and second opposed ends, the compressor is provided at the first end of the engine and the charge air cooler is provided at the second end of the engine

14. The internal combustion engine of Claim 8, wherein the engine has first and second opposed ends, the compressor is provided at the first end of the engine and the charge air cooler is provided at the second end of the engine

15. The internal combustion engine of Claim 9, wherein the engine has first and second opposed ends, the compressor is provided at the first end of the engine and the charge air cooler is provided at the second end of the engine

16. The internal combustion engine of Claim 10, wherein the engine has first and second opposed ends, the compressor is provided at the first end of the engine and the charge air cooler is provided at the second end of the engine

17. A method of delivering charged air from a turbocharger compressor to a 'V' configuration internal combustion engine having first and second spaced banks of cylinders each defining a plurality of combustion chambers, comprising:

causing charge air to flow from a compressor outlet along a conduit disposed in the 'V' between said first and second spaced banks of cylinders to a charge air cooler;

cooling said charge air at said charge air cooler;

causing cooled charge air to flow from said charge air cooler to a flow control valve; and

controlling the flow of cooled charge air to a first branch conduit connected to said first bank of cylinders and a second branch conduit connected to said second bank of cylinders by adjusting said flow control valve.

18. The method of Claim 17, in which cooled charge air flows from said flow control valve to an inlet of a connector, said connector having two

outlets, cooled charge air flowing from each of said outlets to said first and second branch conduits respectively.

19. The method of Claim 17 wherein the compressor is provided at the first end of the engine and the charge air cooler is provided at the second end of the engine.

20. The method of Claim 17 wherein the compressor is provided at the first end of the engine and the charge air cooler is provided at the second end of the engine